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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,776	10/06/2000	Michael G. Gyde	H0001626	2631

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EXAMINER

LEE, HWA C

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/680,776	GYDE ET AL.	
	Examiner	Art Unit	
	Hwa C Lee	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9 and 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9, and 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/15/2004 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 3-9, and 11-20 have been considered but are moot in view of the new ground(s) of rejection. The applicant's argument is based on the newly amended claims raising new issues. Central to the applicant's argument is the method of pre-assigning the display content based on the pre-determined priority. Necessitated by said amendment filed 09/15/2004, the examiner presents new grounds of rejection as provided below. As presented in the previous office action, Smith explicitly teaches a plurality of display division schemes in addition to the quadrants explicitly stated (Col. 3, line 51 – Col. 5, line 61 and FIGS. 2-10). Thus, other division schemes such as 1/6, 1/3, 1/2, 2/3, and 3/3 are taught by Smith in the broadly claimed specification. There is no reason to believe that Smith could not be used to display said display sizes. Further, the examiner believes that Bourgeois et al., US Patent Number: 5,060,170 and Pope, US Patent Number: 4,823,108 teaches

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varying the size and location of the window display portions based on pre-determined priority, and thus said limitations are well known and standard in the display art.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al., US Patent No.: 6,466,235.

6. In regards to claim 1, Smith et al. teaches ***an avionics display comprising a plurality of panels, wherein at least one of the panels is selectively configurable to have a size corresponding to one of a limited set of sizes is 1/6, 1/3, 1/2, 2/3, and 3/3 of the display*** (Col. 3, line 51 – Col. 5, line 61 and FIGS. 2-10).

- Smith explicitly teaches avionics display comprising a plurality of panels in FIGS. 2-10. Each panel size is selectable from predetermined sizes comprising of four

fixed-size equal quadrants (Col. 5, lines 51-61), wherein the display can be selected to cover one quadrant or two quadrants (Col. 4, lines 27-52). In addition, the electronic moving map (202) is the default background that can be displayed on one, two, or three quadrants (Col. 3, lines 58-63 and FIGS. 2-10). One quadrant specifically is substantially $1/6$ and $1/3$ of display area. Two quadrants specifically are substantially $1/2$ of the display area. Three quadrants specifically are $2/3$ and $3/3$ of the display area. Further, Smith explicitly teaches that many other screen division schemes other than the four quadrant scheme can be incorporated (Col. 5, lines 51-61). Thus, the set of sizes as disclosed by the applicant is an obvious design choice anticipated by Smith et al. In addition, the applicant fails to disclose the criticality of the specific sizes, ***1/6, 1/3, 1/2, 2/3, and 3/3 of the display***. The different sizes for the panels depend on the importance of the information displayed on each panel for different situations and the specific functions being executed. More important data are displayed on panels with a larger portion of the total display area, but there is no criticality of the specific sizes. Further, although the drawings may not be drawn to scale, FIGS. 1-10 broadly teaches said sizes, and it would have been obvious to one of ordinary skill in the art at the time of the invention to take the teachings of Smith and to use display sizes of $1/6$, $1/3$, $1/2$, $2/3$, and $3/3$ in light of the broadly stated invention of Smith directed to display sizes (Col. 5, lines 51-61).

7. In addition, Smith teaches ***wherein each of the plurality of panels is configured to display a display content, the display content pre-assigned to a***

subset of sizes of the limited set of sizes based on a pre-determined priority, and wherein each of the plurality of panels is configured to be located on the avionics display based on the pre-determined priority.

- The applicant broadly recites the limitation, “pre-determined priority”. Said priority can be any computer algorithm incorporated into the display program, which designates the size and locations of the avionics display as taught by Smith. In order to display the plurality of display portions in specific locations and sizes as shown in FIGS. 1-10, the computer must provide a specific priority pre-determined by the computer codes of the computer algorithm. Thus, the avionics display of Smith specifically teaches configuring the plurality of display panels based on a predetermined priority, wherein said predetermined priority determines the size and location of said display panels. In addition, based on the user interface, the apparatus and system of Smith applies predetermined priority for closing and opening the corresponding instrument functions for display (Col. 3, lines 29-50). Smith also teaches using a pop-up menu (Col. 3, line 64 – Col. 5, line 4). Thus the apparatus and system of Smith displays appropriate pop-up menu and instrument functions in specific location and size based on a predetermined computer algorithm or priority. Further, it is well known and obvious in the art to display a plurality of display windows based on priority to control the location and sizes of said plurality of display windows (See Response to Arguments above).

8. In regards to claim 3, Smith et al. teaches ***a display according to claim 1, wherein the at least one of the panels presents a first selected display content of a plurality of display contents, and further comprising a modification interface for changing at least one of the selected display content and the size of the panel.***

- Smith et al. teaches using a pop-up menu to select a function and displaying said function screen in one or two quadrants (Col. 4, lines 27-52 and FIGS. 3-8). The user clicks on the “full view top menu bar” (508) in order to display the function on two quadrants, and clicks on the “full view bottom selection, manual view compression button” (510) in order to display the function on one quadrant. Thus, said pop-up menu, “full view top menu bar”, and “full view bottom selection, manual view compression button” specifically are used to select a display content and to modify the size of the display panel.

9. In regards to claim 4, Smith et al. clearly teaches ***a display according to claim 3, wherein the modification interface comprises at least one of a menu and a plurality of tabs.***

- Smith et al. al. clearly teaches using pop-up menus in order to select a function display as applied to claim 3 above. In addition, a plurality of buttons is used to selectively change the display panel sizes as applied to claim 3 above. One such button functions similar to a standard ‘tab’, wherein the user can toggle between two displays by clicking on the appropriate button (Col. 4, line 64 – Col. 5, line 4 and FIGS. 5-7). Further, Smith et al. clearly teaches that visual marks other than buttons could be used (Col. 5, line 62 – Col. 6, line 12).

10. In regards to claim 5, Smith et al. teaches **a display according to claim 1, wherein the at least one of the panels presents a selected display content of a plurality of display contents, and wherein the limited set of sizes corresponds to the selected display content.**

- Smith et al. teaches using a pop-up menu to select a function display content from a list of choices presented in the menu as applied to claim 3 above. In addition, Smith et al. teaches displaying the selected function display content according to the default display content (Col. 4, lines 27-52), wherein said size of the display panel can be changed as applied to claims 1 and 3 above. Thus the default display content matches the display size, which comprises the limited set of sizes, to the selected display content.

11. Claims 6, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. in view of Briffe et al., U.S. Patent No., 6,112,141.

12. In regards to claim 6, Smith et al. teaches avionics display system as applied to claim 1 above, which specifically is **a cockpit display system** comprising a plurality of display panels. In addition, Smith et al. teaches **wherein at least one of the panels is selectively configurable to have a size corresponding to one of a limited set of non-user-defined sizes, and wherein the limited set of sizes is 1/6, 1/3, 1/2, and 3/3 of the display, wherein each of the plurality of panels is configured to display a display content, the display content pre-assigned to a subset of sizes of the limited set of sizes based on a pre-determined priority, and wherein each of the plurality of panels is configured to be located on the avionics display based on**

the pre-determined priority as applied to claim 1 above. Smith et al. does not explicitly teach ***(a) a plurality of monitors configured to display a plurality of sets of information; and (b) a processor communicating with the plurality of monitors,*** but Briffe et al. teaches said limitations.

13. Briffe et al. teaches a flight deck for a business jet, which includes an instrument panel (12) comprising four LCD screens, which specifically are a plurality of monitors for displaying a plurality of set of information (Col. 4, lines 58-65; Col. 5, lines 2-13; and FIG. 1, Nos. 16, 18, 20, and 22). In addition, Briffe et al. teaches a microprocessor functioning as a flight management system computer (63) including graphics driver for LCD screens (Col. 5, line 66 – Col. 6, line 24 and FIG. 2). Further, Briffe et al. clearly teaches that the display screen of the MFD comprises six windows of 1/6 the total screen size, wherein different widows displayed is selected from a possible set of screen size comprising 1/6, 1/3, 1/2, 2/3, and 1 times the available screen space (Col. 11, lines 42-55).

14. It would have been obvious to one of ordinary skill in the art to take the teachings of Smith et al. and add from Briffe et al. the method of implementing a plurality of monitors for displaying a plurality of sets of information in order to provide a redundant display system. A plurality of functions is displayed redundantly in both screens to permit a flight to depart even if one MFD is inoperable (Col. 11, liens 12-20). In addition, both references are directed to displaying avionic information.

15. In regards to claim 13, Smith et al. and Briffe et al. teach the cockpit display system of claim 6 above. In addition, Smith et al. and Briffe et al. teach ***wherein the at***

least one of the panels presents a selected display content of a plurality of display contents, and wherein the limited set of sizes corresponds to the selected display content using the same basis and rationale as applied to claim 5 above. Briffe et al. teaches the limitation of a plurality of panels displaying a selected content of a plurality of display contents as applied to claim 6 above. Each panel representing a specific content is sized appropriately to correspond to the selected content, which specifically is the default display content as taught by Smith et al.

16. Claims 7-8, 11-12, and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. in view of Briffe et al. as applied to claims 6 and 13 above, and further in view of Factor, U.S. Patent No. 6,281,810.

17. In regards to claim 7, Briffe et al. teaches a processor controlling a plurality of monitors displaying a plurality of information, which specifically is ***a processor providing a first set of information to a first monitor and a second set of information to a second monitor*** as applied to claim 6 above. In addition, Briffe et al. teaches a redundant display system, wherein some of the information is redundantly displayed on both screens, and thus allows the flight to depart even if one monitor fails (Col. 11, Lines 12-20). Briffe et al., however, does not teach redundancy of all information from the first monitor.

18. Factor discloses the limitation of two independent projectors with the first projector displaying a first set of information on the bottom row and the second projector displaying a second set of information on the top row of the same LCD monitor. When one projector fails, the other projector displays both the first and second set of

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information on both the top and bottom rows of the LCD monitor (Col. 5, lines 21-53).

Factor also discloses two independent computer/projector systems (Col. 2, lines 17-40), and a computer specifically comprises of a processor. The same concept using the two projectors as disclosed by Factor is applied to two monitors as taught by Briffe et al.

Just as it is the case for the two projectors, if one monitor fails, the other monitor displays all information, which specifically is displaying the second set of information on the first monitor.

19. It would have been obvious to one of ordinary skill in the art to take the teachings of Smith et al. and Briffe et al., and to add from Factor the method of displaying two sets of information using two projectors, wherein the first projector displays the second set of information when the second projector fails in order to provide independent redundant display system to provide backup display of all critical cockpit instrument information. The same concept is applied to the redundant monitors as taught by Briffe et al., wherein the first monitor displays the second set of information if the second monitor fails. Thus, all of the information can be displayed on the first monitor if the second monitor fails. In addition, all references are directed to a cockpit display system, wherein a plurality of display panels are display a plurality of information.

20. In regards to claim 8, the same basis and rationale for claim rejection as applied to claims 6-7 are applied. Smith et al. discloses the limitation of changing the size of the panel as applied to claim 6 above, and Briffe et al. and Factor discloses the limitation of displaying the second set of information on the first monitor if the second monitor fails. In order to display both the first and second set of information on the first monitor, the

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first panel representing the first set of information must be reduced in size in order to display the second set of information along with the first set of information on the first monitor. Further, Smith et al. teaches reducing the display size of the default background map display when other information is selected to be displayed by the user as applied to claim 1 above.

21. In regards to claim 11, the same basis and rationale for claim rejection as applied to claims 1, 3 and 6 above. Smith et al. and Briffe et al. disclose the limitation of a plurality of display panels, wherein at least one of the panels presenting a plurality of display contents, which specifically is ***at least one of the panels presenting a first selected display of content of a plurality of display*** contents as applied to claims 1 and 6 above. In addition, Smith et al. teaches using menus and buttons, which specifically are ***a modification interface for changing at least one of the selected display content and the size of the panel*** as applied to claim 3 above.

22. In regards to claim 12, the same basis and rationale for claim rejection as applied to claims 1, 4 and 6 are applied. The combination of claims 4 and 6 are directed to the same limitations as the current claim.

23. In regards to claim 14, the same basis and rationale for claim rejection as applied to claims 6 and 7 are applied. The combination of claims 6 and 7 comprises all limitations of the current claim.

24. In regards to claim 15, the same basis and rationale for claim rejection as applied to claims 11 and 14 are applied.

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25. In regards to claim 16, the same basis and rationale for claim rejection as applied to claims 12, and 15 are applied.

26. In regards to claim 17, the same basis and rationale for claim rejection as applied to claims 6, 7 and 14 are applied. Both Smith et al. and Briffe et al. teach displaying information on a plurality of panels, wherein the panels have sizes limited to at least one of substantially 1/6, 1/3, 1/2, 2/3 and 3/3 of the display.

27. In regards to claim 18, the same basis and rationale for claim rejection as applied to claims 5, 6, 7, and 14 are applied. Briffe et al. teaches a plurality of LCD displays as applied to claim 6 above. Both Smith et al. and Briffe et al. teach displaying information on a plurality of display panels, wherein the panels have a limited selection of sizes, and wherein the limited selection of sizes corresponds to the information displayed on the panel as applied to claims 5 and 6 above.

28. In regards to claim 19, the same basis and rationale for claim rejection as applied to claims 6, 7, 8, and 14 are applied. The added limitation specifically is identical to claim 8, and thus the combination of claims 8 and 14 is directed to the same limitations as the current claim.

29. Claims 9 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. in view of Briffe et al. as applied to claims 6 and 13 above, and further in view of Factor as applied to claims 7-8, 11-12, and 14-19 above, and further in view of Nakajima et al., U.S. Patent Application Publication No. 2001/0055029.

30. In regards to claim 9, Smith et al., Briffe et al., and Factor in combination teach the limitations of ***a processor configured to provide the second set of information***

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to the first monitor if the second monitor fails as applied to claims 7-8, 11-12, and 14-19 above, but do not explicitly teach limitation of ***the first set of information corresponds to a first priority, and wherein the processor is configured to provide the second set of information to the first monitor only if the second priority is higher than the first priority.***

- Nakajima et al. discloses a switching control connected to a display, wherein, the input signal having the highest priority among the two host computers is allowed to be displayed on the display monitor (Paragraph [0044]). Thus, the first set of information from the first host computer corresponds to a first priority, and the second set of information from the second host computer corresponds to a second priority. The second set of information is displayed on the first monitor only if the second priority is higher than the first priority.

31. It would have been obvious to one of ordinary skill in the art to take the teachings of Smith et al., Briffe et al., and Factor, and to take from Nakajima et al. the method of assigning priorities to a plurality of input information and to allow the second set of information to be displayed on the first monitor only if the second priority is higher than the first priority in order to determine the importance of all sets of information and to display only those information with the highest importance (priority) in case of display monitor failure. When a monitor fails, the information on the failed monitor is compared with the information on the first monitor to determine which set of information is more important (higher priority). It would have been obvious to allow the second set of

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information to be displayed on the first monitor only if the second priority were higher than the first priority.

32. In regards to claim 20, the same basis and rationale for claim rejection as applied to claims 8-9 and 14 are applied.

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art explicitly teaches using predetermined priority to selectively display a plurality of display windows by assigning size and locations based on said predetermined priority.

Pope, US Patent No.: 4,823,108

Bourgeois et al., US Patent No. : 5,060,170

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hwa C Lee whose telephone number is 703-305-8987. The examiner can normally be reached on M-F 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hwa C Lee
Examiner
Art Unit 2672

HCL
01/07/2004



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